



CHAPTER 3

Preparing to Install Cisco Prime LAN Management Solution 4.1

This chapter lists the necessary information that prepares you to perform an installation of LMS 4.1 on both Soft Appliance, Windows and Solaris systems.

This chapter contains:

- [Terms and Definitions Used in LMS Installation Framework](#)
- [Before You Begin Installation](#)
- [Licensing Your Product](#)
- [Application Scaling Numbers](#)

Terms and Definitions Used in LMS Installation Framework

This section captures the terms and definitions that are used while installing LMS 4.1

See [Licensing Your Product](#) to understand the licensing terminologies.

For more information on Password rules and descriptions, see [Password Information](#)

LMS Application Database Password

In LMS 4.1, the LMS Application Database Password is requested during Custom installation. This database password is used internally by the LMS software to communicate with the respective application's database. This password is also used while restoring or troubleshooting the database.

This password should be between 5 and 15 characters and should be alphanumeric. Do not start the password with a number and do not insert spaces between characters.



Note

While installing the software in Custom mode alone you will be prompted to enter the LMS Application database password. In the Typical mode, this password is randomly generated.

While installing, you will come across these terms:

- **LMS Admin Password**

An administrative password used while logging into the LMS server as administrator. Use a minimum of five characters.

Ensure that you have noted down the password.

You are prompted to enter this password in both Typical and Custom modes of installation.

- **System Identity Account Password**

Password that is used in a multi-server environment.

Communication among multiple LMS Servers is enabled by a “trust” model addressed by certificates and shared secrets. System Identity setup helps you to create a “trust” user among servers that are part of a multi-server setup. This user enables communication among servers that are part of a domain.

You must configure all the LMS servers that are part of your multi-server setup with the same system identity account password.

While entering the System Identity Account Passwords, use a minimum of five characters.

You are prompted to enter this password in both Typical and Custom modes of installation. To change the System Identity Account password, select **Admin > Trust Management > Multi Server > System Identity Setup**.

- **LMS Guest Password**

This is used while logging into the LMS server as a guest user. Use a minimum of five characters.

You are prompted to enter this password in the Custom mode of installation. In the Typical mode, this password is randomly generated.

- **Self Signed Certificate**

LMS allows you to create security certificates to enable SSL communication between your client browser and management server.

Self Signed Certificates are valid for five years from the date of creation. When the certificate expires, the browser prompts you to install the certificate again from the server where you have installed LMS.

For more information on Self Signed Certificates, see [User Inputs for Custom Installation](#).

In the Typical mode, this certificate is automatically generated.

For more information on passwords, see [Password Rules for New Installation](#)

- **SMTP Server**

System-wide name of the SMTP server used by LMS 4.1 to deliver reports. The default server name is localhost.

You are prompted to enter this server detail only in the Custom mode of installation. In the Typical mode, after the installation you can configure SMTP by selecting **Admin > System > System Preferences** from the LMS 4.1 UI.

- **Port**

The default http port for the LMS server is 1741. You are prompted to configure the port number of the http port during the installation of LMS, if the port is in used state.

The default https port for the LMS server is 443. You are prompted to configure the port number of the https port during the installation of LMS, if the port is in used state.

- Cisco.com

Cisco.com user ID and password. This information is used while performing tasks such as downloading software images, downloading device packages, etc. You are prompted to enter these credentials only while installing the LMS Integration Utility.

You can also change the System Identity Account password, select **Admin > Trust Management > Multi Server > System Identity Setup**. To change the Guest password, select **Admin > System > User Management > Local User Setup**. To change the Cisco.com credentials, select **Admin > System > Cisco.com Settings**.

Before You Begin Installation

This section contains the following important information that you should read before you begin installation:

- [Installation Notes](#)
- [Installation Notes \(For Solaris Only\)](#)
- [Installation Notes \(For Windows Only\)](#)
- [Installation Notes \(For Soft Appliance Only\)](#)

Installation Notes

Before you begin the installation, read the following notes:

- Close all open or active programs. Do not run other programs during the installation process.
- While setting up High Availability (HA) and Disaster Recovery (DR) environment in LMS server, ensure to set them prior to LMS installation.
- By default, SSL is not enabled on LMS Server.
- While launching LMS, network inconsistencies might cause installation errors if you are installing from a remote mount point.
- If your LMS Server is integrated with any Network Management System (NMS) in your network using the Integration Utility, you must perform the integration whenever you enable or disable SSL in the LMS Server. You must do this to update the application registration in the NMS.

For help with NMS integration, see the [User Guide for Integration Utility 1.10](#). You can find this document on Cisco.com, in both HTML and PDF form.

http://www.cisco.com/en/US/products/sw/cscowork/ps3996/products_user_guide_list.html

- Disable any popup blocker utility that is installed on your client system before launching LMS.
- LMS 4.1 is installed in the default directories:
 - On Solaris and Soft Appliance: /opt/CSCOpX
 - On Windows, 64 bit: *SystemDrive*:\Program Files<x86>\CSCOpX
 - On Windows, 32 bit: *SystemDrive*:\Program Files\CSCOpX

Where, *SystemDrive* is the Windows operating system installed directory.

If you select another directory during installation, the application is installed in that directory.

The destination folder should not contain the following special characters:

- On Solaris and Soft Appliance:

! @ # \$ % ^ & * () + | } { " : [] ; ' ? < > , . ` = ~

- On Windows:

! @ # \$ % ^ & * () + | } { " [] ; ' / ? < > , . ` =

- If errors occur during installation, check the installation log file:

- On Solaris and Soft Appliance, check the installation log file

/var/tmp/Cisco_Prime_install_YYYYMMDD_hhmmss.log for LMS 4.1 installation

Where *YYYYMMDD* denotes the year, month and date of installation and *hhmmss* denotes the hours, minutes and seconds of installation.

For example:

/var/tmp/Cisco_Prime_install_20110721_182205.log

- On Windows, check the installation log in the root directory on the drive where the operating system is installed. Each installation creates a new log file.

For example, for LMS 4.1, the installation log file is:

C:\Cisco_Prime_install_YYYYMMDD_hhmmss.log, where *YYYYMMDD* denotes the year, month and date of installation and *hhmmss* denotes the hours, minutes and seconds of installation.

For example:

C:\Cisco_Prime_install_20100721_182205.log

- You can press **Ctrl-C** (on Solaris, and not on Soft Appliance) or click **Cancel** (on Windows) at any time to end the installation. However, any changes to your system will not be undone.

For example, if any new files were installed or if they were any changes to the system files, you need to manually clean up the installation directories.



Note

We recommend that you do not terminate the installation while it is running.

- If HP OpenView is running on your system, installation will take more time. Disable HP OpenView to run a faster installation.
- To ensure that you have the latest device support and bug fixes for LMS you must install the latest Device Package updates.

For download locations, see [Supported Devices](#).

Installation Notes (For Solaris Only)

- On Solaris, if you select an installation directory other than the default, the /opt/CSCOpX directory is created as a link to the directory you selected.



Warning

If you remove this link after installation, the product will malfunction.

- We recommend that you run the installation from a local DVD or a local hard drive to avoid errors that may result from the network being slow or busy.

If you want to install from a local hard drive, you must copy the contents from the DVD to the local hard drive. Ensure that you copy the entire contents from the DVD to the hard drive.

You must preserve the timestamp when you copy the contents from the DVD to the hard drive.

To preserve all the attributes including timestamp:

- a. Change the present working directory to the directory to which the DVD is mounted using the command:

```
cd /cdrom/cdrom0
```

where `cdrom/cdrom0` is the directory to which the DVD is mounted.

- b. Create a directory where you want to copy the contents of the disk by entering:

```
mkdir /opt/copydisk
```

Make sure that this directory has enough space to hold the entire contents of the disk.

- c. Enter:

```
tar cpf - . | (cd /opt/copydisk && tar -xpf -)
```

This command preserves all attributes including the timestamp.

- You must restart your system after you install LMS 4.1.

Installation Notes (For Windows Only)

- You can install LMS 4.1 on a system with Terminal Services enabled in Remote Administration mode. However, installation of LMS 4.1 on a system with Terminal Services enabled in Application mode is not supported.

If you have enabled Terminal Server in Application mode, disable the Terminal Server, reboot the system, and start the installation again. See [Terminal Server Support for Windows Server](#).

- If Internet Information Services (IIS) is detected on your system and if you have continued the installation with IIS services, you cannot use the port number 443 for HTTPS. Instead, you must use the port numbers ranging from 1026 to 65535 for HTTPS to avoid this conflict.
- If you are running any virus scanner while installing LMS 4.1, the installation might take longer to complete.

We recommend that you disable the virus scan software on your system. You can restart it after all installations are completed.

- You must disable Windows Defender on servers running Windows 2008 and reboot before installing LMS 4.1. The installer will not copy the database to the appropriate location if you do not disable Windows Defender.
- Check the Primary and Active regional settings before installation. They have to be set either as US English or Japanese. Other options are not supported by LMS 4.1.

You can set the Active regional settings in **Control Panel > Regional and Language Options > Regional Options**.

- Ensure that the Cisco Prime Windows Server has either the US English or Japanese version of Operating System installed. Otherwise, you must re-install the Operating System with one of the supported versions before you install Cisco Prime LMS.
- You must restart your system after you install LMS 4.1 to avoid any system instability on a Windows Operating System.

Installation Notes (For Soft Appliance Only)

- Ensure that your system meets the recommended hardware and software specifications specified in [Server Requirements on Soft Appliance Systems](#).
- Soft Appliance OVA software can be installed only on VMware environment.
- We recommend that you disable the virus scan software on your system.
- In VMWare, the resources should not be in shared mode.

Licensing Your Product

The LMS 4.1 product provides features such as software-based product registration and license key activation technologies. While you are installing LMS, the installer displays the Registration and Licensing input dialog box.

This section contains:

- [Understanding Product Ordering Options and Product Authorization Key](#)
- [License Information](#)
- [License File](#)
- [Evaluation Mode](#)
- [NFR \(Not For Resale\) License](#)
- [Installing the License File](#)

Understanding Product Ordering Options and Product Authorization Key

Product Authorization Key (PAK) ID refers to the identification key that you must enter while registering your product in Cisco.com to receive the product serial license key.

The PAK is normally printed on the software claim certificate that is part of the product DVD kit.

With the new ordering options introduced, you can receive the digital PAK IDs through online delivery also.

The following are the options available to you to order the LMS 4.1 software and Product Authorization Key (PAK):

- [Ordering Physical LMS 4.1 Product DVD with Printed PAK](#)
- [Downloading LMS 4.1 Evaluation Software and Ordering Digital PAK](#)
- [Ordering Physical LMS 4.1 Base Media Kit and Digital PAK](#)

Ordering Physical LMS 4.1 Product DVD with Printed PAK

This is the traditional method of purchasing the product through Cisco Direct and Channel Sales representatives.

You will receive a kit with product DVDs and a software claim certificate paper, when you opt to select this delivery method. The software claim certificate paper contains the Product Authorization Key (PAK) printed on it.

**Note**

The product DVD kit for LMS 500, LMS 1000, LMS 2500, LMS 5,000 and LMS 10,000 license types, contains a DVD for Windows Operating System, a DVD for Solaris Operating Systems.

Downloading LMS 4.1 Evaluation Software and Ordering Digital PAK

To ensure the faster delivery of the product, this option has been introduced. With this option, you can now:

- Download the LMS 4.1 Evaluation software from <http://www.cisco.com/go/nmsevals>.

The Evaluation software functions for 90 days and will expire after that. The product will not work until you provide a valid license file. See [Evaluation Mode](#) for more information.

- Order a digital PAK ID using the Cisco's eDelivery application.

You must be a registered Cisco.com user to use the eDelivery application. To request a Cisco.com profile go to: <https://tools.cisco.com/RPF/register/register.do>.

After you have ordered the product in eDelivery and the electronic fulfillment is complete, you will receive the electronic software claim certificate with the digital PAK.

Ordering Physical LMS 4.1 Base Media Kit and Digital PAK

A physical LMS base media kit without PAK ID is offered to you in this method of ordering.

You can opt to order the LMS base media kit if you need a physical DVD or if you are restricted to download the software from the Evaluation Software Download site.

Similar to the Evaluation software, the base media kit, when installed, will function for 90-days. Then the software require the installation of a permanent serial license key to operate beyond that point.

You must also order for a digital PAK ID using the Cisco's eDelivery application.

You must be a registered Cisco.com user to use the eDelivery application. To request a Cisco.com profile go to: <https://tools.cisco.com/RPF/register/register.do>

After you have ordered the product in eDelivery and the electronic fulfillment is complete, you will receive the electronic software claim certificate with the digital Product Authorization Key (PAK).

License Information

The licenses in LMS 4.1 are device based. For 10,000 device licenses, applying a single serial license key to more than one server is supported.

For IPSLA Performance Management alone, besides the number of devices, the number of collectors you create depends on the license and hardware requirements.

This section explains about the various licenses available for LMS 4.1.

Read the information in [Understanding Product Ordering Options and Product Authorization Key](#) to understand about the various product ordering options, before you know about the various licenses of LMS 4.1.

This section contains:

- [Available Licenses for LMS 4.1](#)
- [Major Upgrade Kit Licenses for LMS 4.1](#)
- [Upgrading to a Higher SKU on Soft Appliance Systems](#)

See [Application Scaling Numbers](#) for further deployment related information.

Available Licenses for LMS 4.1

This section contains:

- [Licensing SKUs for Traditional Ordering](#)
- [Licensing SKUs for Ordering Base Media Kit Without PAKs](#)
- [Licensing SKUs for Ordering Digital PAKs](#)

Licensing SKUs for Traditional Ordering

The following are the available licenses (SKUs) for LMS 4.1 users, who have opted to order the physical Product DVD kit (Physical software and Software claim certificate paper with PAK):

Available Licenses (SKU) in LMS 4.1	Permitted number of Devices in LMS 4.1
LMS-4.1-50-K9	50 devices
LMS-4.1-100-K9	100 devices
LMS-4.1-500-K9	500 devices
LMS-4.1-1K-K9	1000 devices
LMS-4.1-2.5K-K9	2,500 devices
LMS-4.1-5K-K9	5,000 devices
LMS-4.1-10K-K9	10,000 devices

Licensing Incremental SKUs

Incremental SKUs are introduced in LMS 4.1. You must have the LMS 4.1 base media kit to order the incremental licenses.

The following are the available incremental licenses (SKUs) for LMS 4.1 users, who have opted to order the physical Product DVD kit (Physical software and Software claim certificate paper with PAK):

Available Licenses (SKU) in LMS 4.1	Permitted number of Devices in LMS 4.1
L-LMS-4.1-50-ADD	Incremental license for 50 devices
L-LMS-4.1-100-ADD	Incremental license for 100 devices
L-LMS-4.1-500-ADD	Incremental license for 500 devices
L-LMS-4.1-1K-ADD	Incremental license for 1000 devices
L-LMS-4.1-2.5K-ADD	Incremental license for 2,500 devices
L-LMS-4.1-5K-ADD	Incremental license for 5,000 devices

Licensing SKUs for Ordering Base Media Kit Without PAKs

If you want to order for the LMS 4.1 base media kit without any PAK, you must use the following product number:

Base Media Kit Product Number	Permitted number of Devices LMS 4.1
LMS-4.1-SW-K9	100 devices
	Note This is the default number of devices allowed to manage in the evaluation version of the product.

Licensing SKUs for Ordering Digital PAKs

The following are the available licenses (SKUs) for LMS 4.1 users, who have opted to receive the Digital PAK through eDelivery:

Available Licenses (SKU) in LMS 4.1	Permitted number of Devices in LMS 4.1
R-LMS-4.1-50-K9	50 devices
R-LMS-4.1-100-K9	100 devices
R-LMS-4.1-500-K9	500 devices
R-LMS-4.1-1K-K9	1000 devices
R-LMS-4.1-2.5K-K9	2,500 devices
R-LMS-4.1-5K-K9	5,000 devices
R-LMS-4.1-10K-K9	10,000 devices

Major Upgrade Kit Licenses for LMS 4.1

To upgrade from LMS 3.x or LMS 4.0.x, you can order LMS 4.1 through Cisco Sales channels.

Read the information in [Understanding Product Ordering Options](#) and [Product Authorization Key](#) to understand about the various product ordering options for LMS 4.1.

This section explains:

- [Licenses SKUs For Traditional Ordering of LMS 4.1 Major Upgrade Kit](#)
- [Licenses SKUs For Ordering LMS 4.1 Major Upgrade Kit Digital PAK](#)
- [Licenses SKUs For Ordering LMS 4.1 Minor Upgrade Kit](#)
- [Licenses SKUs For Ordering LMS 4.1 Minor Upgrade Kit Digital PAK](#)



Note

If you are an existing LMS 3.x or LMS 4.0.x user and if you want to upgrade to LMS 4.1 750 or 2500 device licenses, we recommend you to:

1. Order the LMS 4.1 Major Upgrade kit for the existing LMS 2.x or LMS 3.x SKU that you are using, and upgrade to LMS 4.1.
2. Order a LMS 4.1 750 or 2500 Device-Level Conversion License to convert from your existing device license to LMS 750 or 2500 SKU.

Licenses SKUs For Traditional Ordering of LMS 4.1 Major Upgrade Kit

If you have opted to order the physical Product DVD kit (Physical software and Software claim certificate paper with PAK), you must use the following SKUs:

Licenses (SKU) to upgrade from LMS 2.x, 3.x	Permitted Number of Devices
LMS41-100-UP-K9	LMS 4.1 100 Device Restricted Upgrade for LMS 2.x, 3.x users
LMS41-300-UP-K9	LMS 4.1 300 Device Restricted Upgrade for LMS 2.x, 3.x users
LMS41-1.5K-UP-K9	LMS 4.1 1,500 Device Restricted Upgrade for LMS 2.x, 3.x users
LMS41-5K-UP-K9	LMS 4.1 5,000 Device Restricted Upgrade for LMS 2.x, 3.x users
LMS41-10K-UP-K9	LMS 4.1 10,000 Device Restricted Upgrade for LMS 2.x, 3.x users

Licenses SKUs For Ordering LMS 4.1 Major Upgrade Kit Digital PAK

If you have opted to order the physical Base Media Kit or download the evaluation software, you must use the following SKUs to order the Digital PAK through eDelivery:

Licenses (SKU) to upgrade from LMS 2.x, 3.x	Permitted Number of Devices
R-LMS41-100-UP-K9	LMS 4.1 100 Device Restricted Upgrade for LMS 2.x, 3.x users
R-LMS41-300-UP-K9	LMS 4.1 300 Device Restricted Upgrade for LMS 2.x, 3.x users
R-LMS41-1.5K-UP-K9	LMS 4.1 1,500 Device Restricted Upgrade for LMS 2.x, 3.x users
R-LMS41-5K-UP-K9	LMS 4.1 5,000 Device Restricted Upgrade for LMS 2.x, 3.x users
R-LMS41-10K-UP-K9	LMS 4.1 10,000 Device Restricted Upgrade for LMS 2.x, 3.x users

Licenses SKUs For Ordering LMS 4.1 Minor Upgrade Kit

If you have opted to order the physical Product DVD kit (Physical software and Software claim certificate paper with PAK), you must use the following SKUs:

Licenses (SKU) to upgrade from LMS 4.0	Permitted Number of Devices
LMS41-50-MR-K9	LMS 4.1 100 Device Upgrade for LMS 4.0 users
LMS41-100-MR-K9	LMS 4.1 100 Device Upgrade for LMS 4.0 users
LMS41-300-MR-K9	LMS 4.1 300 Device Upgrade for LMS 4.0 users
LMS41-750-MR-K9	LMS 4.1 750 Device Upgrade for LMS 4.0 users
LMS41-1.5K-MR-K9	LMS 4.1 1,500 Device Upgrade for LMS 4.0 users
LMS41-2.5K-MR-K9	LMS 4.1 2,500 Device Upgrade for LMS 4.0 users
LMS41-5K-MR-K9	LMS 4.1 5000 Device Upgrade for LMS 4.0 users
LMS41-10K-MR-K9	LMS 4.1 10,000 Device Upgrade for LMS 4.0 users

Licenses SKUs For Ordering LMS 4.1 Minor Upgrade Kit Digital PAK

If you have opted to order the physical Base Media Kit or download the evaluation software, you must use the following SKUs to order the Digital PAK through eDelivery:

Licenses (SKU) to upgrade from LMS 4.0	Permitted Number of Devices
R-LMS41-50-MR-K9	LMS 4.1 100 Device Upgrade for LMS 4.0 users
R-LMS41-100-MR-K9	LMS 4.1 100 Device Upgrade for LMS 4.0 users
R-LMS41-300-MR-K9	LMS 4.1 300 Device Upgrade for LMS 4.0 users
R-LMS41-750-MR-K9	LMS 4.1 750 Device Upgrade for LMS 4.0 users
R-LMS41-1.5K-MR-K9	LMS 4.1 1,500 Device Upgrade for LMS 4.0 users
R-LMS41-2.5K-MR-K9	LMS 4.1 2,500 Device Upgrade for LMS 4.0 users
R-LMS41-5K-MR-K9	LMS 4.1 5000 Device Upgrade for LMS 4.0 users
R-LMS41-10K-MR-K9	LMS 4.1 10,000 Device Upgrade for LMS 4.0 users

Upgrading to a Higher SKU on Soft Appliance Systems

Before you upgrade your Soft Appliance system from a lower SKU to a higher SKU, ensure that your system meets the recommended hardware and software specifications mentioned in [Server Requirements on Solaris Systems](#).

To upgrade your Soft Appliance system from a lower SKU to a higher SKU:

-
- Step 1** Shut down the VM from the vSphere client.
 - Step 2** In the vSphere client, select the VM, right click, and select **Edit Settings**.
 - Step 3** Select the Hardware tab and change the memory and CPU allocations, as recommended.
 - Step 4** Select the Resources tab and change the CPU reservation, as recommended.
 - Step 5** Switch on the VM and update the license.
-

License File

When you register your LMS purchase on the product licensing area of Cisco.com, you will receive a license file.

If you are a registered user of Cisco.com, get your license file from: <http://www.cisco.com/go/license>.

If you are not a registered user of Cisco.com, get your Cisco.com user ID from: <http://tools.cisco.com/RPF/register/register.do>. Once you have obtained your Cisco.com user ID, log on to <http://www.cisco.com/go/license> to get your license file.

Logging in allows your Cisco user profile information to auto-populate many of the product registration fields. Login is case sensitive.

You must provide your PAK ID while you are registering the product. See [Understanding Product Ordering Options and Product Authorization Key](#) for information on PAK ID.

You must also enter the licensing SKU type according to the one you have purchased with the LMS 4.1 product. See [License Information](#) to furnish the appropriate license file.

You will receive the license file after the registration is completed.

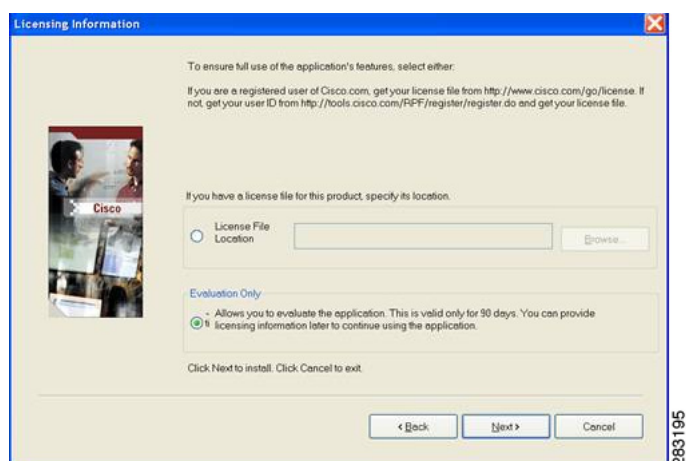
You may obtain and install your license file at any time while you are working on LMS, not necessarily only at the time you install the product. We recommend that you complete the LMS license registration and receive the product license before installing LMS 4.1.

You must store the license file that you have received, on your LMS server.

If you have not purchased a license with the product, and if you have only an Evaluation copy, you can select the Evaluation mode and proceed with using the LMS 4.1 product.

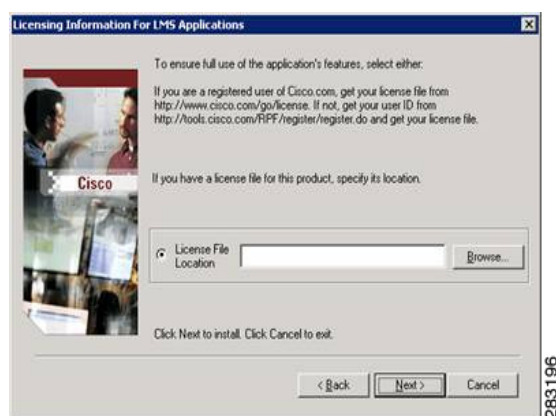
[Figure 3-1](#) displays the licensing screen for LMS 4.1 on Windows 2008 operating system.

Figure 3-1 Licensing Screen for LMS 4.1



[Figure 3-2](#) displays the licensing screen for LMS 4.1 for existing users.

Figure 3-2 Licensing Screen for LMS 4.1 During Upgrade



The LMS installation program prompts you to select either the license file or select the Evaluation Only option (see [Figure 3-1](#)). We recommend that you complete the license registration process at this point.

**Note**

When you want to specify the location of the License file in the Soft Appliance server, you must use FTP/SFTP/SCP commands to transfer files to the Soft Appliance server. See [Transferring Files to Soft Appliance Server](#) for more information.

Transferring Files to Soft Appliance Server

In the LMS Soft Appliance when you specify the location of the License file or some other file, you must use FTP/SFTP/SCP commands to transfer files to the Soft Appliance server:

To transfer files to or from the Soft Appliance server:

Step 1 Log into the Soft Appliance server through the command line, using a SSH client/console access. To log into the server, you have to use the sysadmin account that was created at the time of installation.

Step 2 To log into the shell:

- a. Enter the command `shell`.
- b. Enter the shell password.

**Note**

By default, the shell will be enabled with sysadmin password. If you want to change the shell password, use Vsphere console and enter the command `shell_enable` in sysadmin mode. On using Vsphere console, you will not have to enter the old password whereas on using other console, you will be prompted to enter the old password.

Step 3 Transfer the files using the following FTP, SFTP or SCP commands:

- **FTP command**

To log into FTP server use the below command:

```
ftp -i -n FTP_SERVER_IP_ADDRESS
```

```
ftp> user USER_NAME PASSWORD
```

Ensure that the file to be transferred is available in the FTP server.

To transfer the file to the Soft Appliance, use the below command:

```
ftp>get FILE_NAME
```

To transfer a file from the Soft Appliance, use the below command:

```
ftp>put FILE_NAME
```

**Note**

Ensure that you provide the appropriate path to the navigate to the folder where the file is located.

- **SFTP command**

To log into the SFTP server use the below command:

```
sftp user@SFTP_IP_ADDRESS:PATH
```

Ensure that the file to be transferred is available in the SFTP server.

To transfer the file to the Soft Appliance, use the below command:

```
sftp>get FILE_NAME
```

To transfer a file from the Soft Appliance, use the below command:

```
sftp>put FILE_NAME
```

- **SCP command**

Ensure that the file to be transferred is available in the SCP server.

```
scp [[user@]from-host:]source-file [[user@]to-host:][destination-file]
```

**Note**

Ensure that you provide the appropriate path to the navigate to the folder where the file is located.

Step 4 Change the owner and group name of the transferred file by using the below command:

```
chown casuser:casusers FILE_NAME
```

Evaluation Mode

If the user installing LMS 4.1 is not authorized to obtain the license on behalf of the administrator, the product can be successfully installed for a period of time using an evaluation license.

If you have received the LMS as an evaluation copy, you need not register the product during the 90-day evaluation period.

The installation process for an evaluation copy is the same as that of a purchased product, except that you are prompted to select the Evaluation Only option from the Licensing Information page (see [Figure 3-1](#)).

If you choose to run LMS in the evaluation mode, it is valid for only 90 days and does not support any upgrades and allows support for only 100 devices. It stops functioning after 90 days. The evaluation period cannot be extended. The product will not work until you provide a valid license file.

If you have not purchased the product, the LMS evaluation server can be reactivated by purchasing LMS from your authorized Cisco reseller and you can register the product. For details, see [Installing the License File](#).

**Note**

You can download the LMS 4.1 Evaluation software from <http://www.cisco.com/go/nmsevals>. You must be a registered user of Cisco.com to download the software.

LMS 50 Devices Restricted License

If you apply LMS 50 Devices Restricted license on a LMS server which has an evaluation license or any other restricted device license types installed, the LMS Server allows you to manage a maximum of 50 devices only. The remaining devices would be moved to suspended state automatically.

In this scenario, there are possibilities that the devices that are supposed to be in the managed state might be moved to suspended state. On the other hand, some devices that are not required to be managed might be in managed state.

**Note**

Devices are moved to suspended state only if you manage more than 50 devices in the LMS Server. Otherwise there is no change in the device management.

Guidelines to Avoid Necessary Devices Being Moved to Suspended State

To avoid necessary devices being moved to suspended state, follow any one of the procedure mentioned below:

- Install the appropriate purchase license while installing the product.

Or

Before applying the 50 SKU license, you can select the particular set of 50 devices by configuring the Group Policy.

To configure the Group Policy, select **Inventory > Device Administration > Device Allocation Policy > Manage By Groups** from the LMS menu.

Using the group policy you can move the remaining unnecessary devices to unmanaged state.

Or

- Move the unnecessary devices from managed state to unmanaged state and move same number of necessary devices from suspended to managed state.

For details on managing device states, see *Unified Device Manager* in *Inventory Online Help*.

Device States After Backup and Restore in a LMS 50 SKU Server

Consider two LMS servers 'S1' and 'S2' with 'S1' managing more than 50 devices and 'S2' applied with LMS 50 devices restricted license.

If data is backed up from 'S1' and restored in 'S2', then the device states in 'S2' will be as follows:

- The device count that matches the current license count (LMS 50) will be in the managed state in UDM.
- The remaining devices will move to the suspended state.

To handle this scenario, see [Guidelines to Avoid Necessary Devices Being Moved to Suspended State](#).

NFR (Not For Resale) License

NFR (Not For Resale) License is a default license that is valid for only 365 days. It allows you to manage up to 100 devices.



Note

You can download the LMS 4.1 NFR software from <http://www.cisco.com/go/nmsnfr>. You must be a registered user of Cisco.com to download the software.

To install a NFR copy of LMS 4.1, you must apply the NFR license either during the installation or after the installation using the graphical user interface.

To apply the NFR license during the installation, you must:

-
- Step 1** Select the License File location option in the Licensing Information page of LMS 4.1 during the installation. See [Figure 3-1](#).
- See [Performing Installation of Cisco Prime LMS 4.1](#) for detailed instructions on installing the product.
- Step 2** Enter the LMS 4.1 NFR license file location, or click **Browse** to locate the NFR license file.

Step 3 Click **Next**.

Step 4 Click **Next**.

The System Requirements dialog box appears.

The installation program calculates the minimum disk space, RAM and Swap space required to install the product.

To install NFR license of the product, the required RAM space is 4GB and Swap space is 8 GB.

You can also apply NFR license after the installation is completed.

To apply the NFR license after the installation is completed, you must select the Evaluation Only option in the Licensing Information page while the installation is progressing. See [Figure 3-1](#) and [Figure 3-3](#).

After the installation is completed, you should:

Step 1 Launch LMS 4.1

Step 2 Select **Admin > System > License Management**.

The License Administration page appears.

Step 3 Click **Update**.

Step 4 Enter the path to the NFR license file in the License field, or click **Browse** to locate the NFR license file.

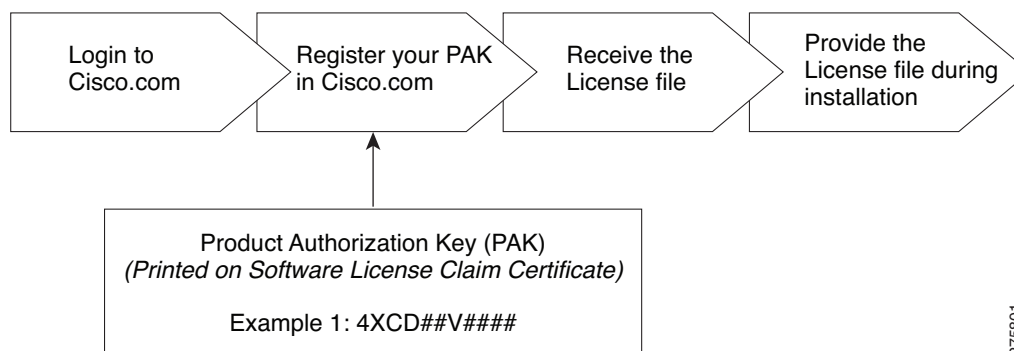
Step 5 Click **OK** to apply the license.

Installing the License File

We recommend that before installing the LMS 4.1 product, you register the product and receive a permanent license.

[Figure 3-3](#) describes the steps that you must follow for licensing your product.

Figure 3-3 Steps to Follow For Licensing LMS



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To license your product and install the license file, you must:

Step 1 Log onto Cisco.com to get your license file.

If you are a registered user of Cisco.com, get your license file from: <http://www.cisco.com/go/license>

If you are not a registered user of Cisco.com, get your Cisco.com user ID from:

<http://tools.cisco.com/RPF/register/register.do>. Once you have obtained your Cisco.com user ID, log on to <http://www.cisco.com/go/license> to get your license file.

Logging in allows your Cisco user profile information to auto-populate many of the product registration fields. Login is case sensitive. After successful registration, you will receive your license file information through an e-mail.

Step 2 Register the LMS product with Cisco.com using the PAK to get your license file.

See [Understanding Product Ordering Options and Product Authorization Key](#) for details. After you have registered your copy of LMS with Cisco.com, you will receive your license file.

Step 3 Install the license file.

If you have obtained the LMS license before installation:

- a. Select the LMS application to install and when prompted:
 - On Windows, select the first radio button (see [Figure 3-1](#)) and use the browse window to locate the license file directory.
 - On Solaris, select **L** for License File after you accept the Licensing Agreement and continue installing the application.
- b. Click **Next** to install the license file.

If you want to convert an evaluation copy to a licensed copy or if want to apply the license after the LMS installation is completed, perform the following:

- a. After you install LMS 4.1, copy this new license file to the LMS server into a directory with read permissions for the user name *casuser* in the user group *casusers*.
- b. Select **Admin > System > License Management**.
The License Administration page appears.
- c. Click **Update**.
A file browser popup dialog box appears.
- d. Enter the path to the new license file in the License field, or click **Browse** to locate the license file that you copied to the server in [Step 2](#).
- e. Click **OK**.
The system verifies whether the license file is valid, and updates the license.
The updated licensing information appears in the License Information page. If you encounter errors, repeat the steps to license your product.



Note

The License file obtained is platform independent and hence can be used in Windows, Solaris, and Soft Appliance systems.

Application Scaling Numbers

This section presents information on the specific scaling numbers for each of the LMS functionalities in LMS server:

The scaling numbers for LMS are as follows:

Functionality	Scalability Limit on LMS Server
Grouping Services	<p>For upto LMS 500 Device licenses, the following are the scaling limits:</p> <ul style="list-style-type: none"> • 30 user-defined groups • 15 IPSLA groups • 10 Fault groups • 15 Port and Module Groups <p>For LMS 500 to LMS 1000 Device licenses, the following are the scaling limits:</p> <ul style="list-style-type: none"> • 200 user-defined groups • 100 IPSLA groups • 50 Fault groups • 100 Port and Module Groups <p>For LMS 2500 Device licenses, the following are the scaling limits:</p> <ul style="list-style-type: none"> • 200 user-defined groups • 200 IPSLA groups • 50 Fault groups • 100 Port and Module Groups <p>For LMS 5000 Device licenses, the following are the scaling limits:</p> <ul style="list-style-type: none"> • 200 user-defined groups • 100 IPSLA groups • 50 Fault groups • 100 Port and Module Groups <p>Note The recommended limit for creating user-defined group is 200, but you are allowed to create upto 600 user-defined groups in LMS.</p>
Inventory, Config and Image Management	<p>In a LMS server, when only this functionality is managed, it supports the following:</p> <ul style="list-style-type: none"> • 10,000 devices • 200 Port and Module Configuration (PMC) groups with 90% port groups and 10% module groups • Maximum of 500,000 ports with an average of 50 ports per device • Maximum of 100,000 ports in a port and Module Configuration group • Maximum of 250,000 ports for each LMS job <p>In addition to the above, Syslog reports can contain upto 40,000 records</p>

Functionality	Scalability Limit on LMS Server
Network Topology, Layer 2 Services and User Tracking	<p>For upto LMS 500 Device licenses, the scaling limit is 20000 Endhosts/IP Phones</p> <p>For LMS 500 and LMS 1000 Device licenses, the scaling limit is 75000 Endhosts/IP Phones</p> <p>For LMS 2500 Device licenses, the scaling limit is 150000 Endhosts/IP Phones</p> <p>For LMS 5000 Device licenses, the scaling limit is 250000 Endhosts/IP Phones</p> <p>Network Topology, Layer 2 Services and User Tracking Data Collection discovers and tracks a maximum of 250,000 Switch Ports.</p> <p>VRF-Lite, an add-on to Network Topology, Layer 2 Services and User Tracking supports 32 VRFs in all LMS device licenses</p>
Fault Management	The functionality supports upto 80,000 ports or interfaces (of which upto 15 percent can be in Managed state) to a maximum.

Functionality	Scalability Limit on LMS Server
Device Performance Management	<p>The recommended MIB objects scaling numbers are as follows:</p> <ul style="list-style-type: none"> • For upto LMS 500 device licenses the MIB objects scaling limit is 6000 • For LMS 500 to LMS 1000 device licenses the MIB objects scaling limit is 30000 • For LMS 2500 device licenses the MIB objects scaling limit is 50000 • For LMS 5000 device license the MIB objects scaling limit is 100000.
IPSLA Performance Management	<ul style="list-style-type: none"> • You can manage a maximum of 2000 collectors on enabling all the device management functions including IPSLA Performance Management functionality. This collector limit includes: <ul style="list-style-type: none"> – 1500 collectors (hourly polling frequency) – 500 collectors (minute polling frequency) • You can manage a maximum of 5000 collectors on disabling other device management functions and managing the IPSLA Performance Management functionality only. This collector limit includes: <ul style="list-style-type: none"> – 4500 collectors (hourly polling frequency) – 500 collectors (minute polling frequency) • For LMS 5000 device license, you can manage a maximum of 5000 collectors with hourly polling frequency. • If you want to manage 5000 collectors without disabling any of the device management functions, you can manage: <ul style="list-style-type: none"> – 2000 collectors in a Solution Master server with 5000 device license – 3000 collectors in a Slave server with LMS Monitoring Server large edition license (add-on license to manage additional performance collectors). See NoteThe AutoIPSLA generated collectors are accounted for license. for details on LMS Monitoring Server licenses. • The IPSLA Monitoring Collector license limit applies only to historical hourly collectors and not to real-time collectors. However, you are allowed to create real-time collectors even after the license limit is reached. There is no limit to the number of real-time collectors that you could create to manage IPSLA Monitoring functionality. <p>Note The AutoIPSLA generated collectors are accounted for license.</p>

Concurrent Users Supported

LMS 4.1 can support:

- 3 concurrent users for upto 500 devices
- 5 concurrent users for 500 to 2500 devices
- 10 concurrent users for 5000 and 10 K devices.

Multiple number of simultaneous users can affect system performance. The maximum recommended concurrent users depends on the size and configuration of the server.